

CLAIMS:

1 1. A method for monitoring and locating an object comprising the steps of:
2 activating a unit to be monitored by a monitoring unit;
3 receiving a first packet of data from said monitored unit, wherein said first
4 packet of data comprises an identification;
5 transmitting a seed of an algorithm to said monitored unit if said identification
6 associated with said first packet of data is a valid identification; and
7 measuring a signal strength of a second packet of data if said second packet of
8 data was received at an expected frequency from said monitored unit, wherein said
9 step of measuring said signal strength of said second packet of data indicates an
10 approximate distance said monitored unit is located from said monitoring device.

1 2. The method as recited in claim 1 further comprising the step of:
2 transmitting an assigned identification to said monitored unit if said
3 identification associated with said first packet of data is a valid identification.

1 3. The method as recited in claim 1 further comprising the step of:
2 transmitting a time synchronization to said monitored unit if said
3 identification associated with said first packet of data is a valid identification.

1 4. The method as recited in claim 1 further comprising the step of:
2 transmitting an acknowledgment to said monitored unit if said signal strength
3 of said second packet of data is at or above a threshold.

1 5. The method as recited in claim 1 further comprising the step of:
2 indicating to a user of said monitoring unit that said monitored unit is located
3 beyond a pre-selected distance from said monitoring unit if said signal strength of
4 said second packet of data is below a threshold.

1 6. The method as recited in claim 5 further comprising the steps of:
2 transmitting an acknowledgment to said monitored unit; and
3 providing a user of said monitoring unit an option of entering into a locate
4 mode.

1 7. The method as recited in claim 6 further comprising the step of:
2 receiving input to enter said locate mode.

1 8. The method as recited in claim 1 further comprising the step of:
2 indicating to a user of said monitoring unit that said monitored unit is located
3 beyond a pre-selected distance from said monitoring unit if said monitoring unit did
4 not receive said second packet of data from said monitored unit at said expected
5 frequency after a pre-determined time period.

1 9. The method as recited in claim 8 further comprising the steps of:
2 transmitting an acknowledgment to said monitored unit; and
3 providing a user of said monitoring unit an option of entering into a locate
4 mode.

1 10. The method as recited in claim 9 further comprising the step of:
2 receiving input to enter said locate mode.

1 11. The method as recited in claim 7 further comprising the steps of:
2 activating a directional antenna; and
3 transmitting a first signal to said monitored unit to enter said locate mode.

1 12. The method as recited in claim 11 further comprising the step of:
2 transmitting a second signal to said monitored unit to enter said locate mode if
3 said monitoring unit did not receive a response to said transmitted first signal.

1 13. The method as recited in claim 11 further comprising the steps of:
2 receiving a response to said transmitted first signal from said monitored unit at
3 an expected frequency;
4 transmitting an acknowledgment to said monitored unit; and
5 measuring a signal strength of said response.

1 14. The method as recited in claim 13 further comprising the steps of:
2 determining a direction of said response using a digital compass; and
3 creating a polar plot indicating said signal strength and said direction of said
4 response.

1 15. The method as recited in claim 10 further comprising the steps of:
2 activating a directional antenna; and
3 transmitting a first signal to said monitored unit to enter said locate mode.

1 16. The method as recited in claim 15 further comprising the step of:
2 transmitting a second signal to said monitored unit to enter said locate mode if
3 said monitoring unit did not receive a response to said transmitted first signal.

1 17. The method as recited in claim 15 further comprising the steps of:
2 receiving a response to said transmitted first signal from said monitored unit at
3 an expected frequency;
4 transmitting an acknowledgment to said monitored unit; and
5 measuring a signal strength of said response.

1 18. The method as recited in claim 17 further comprising the steps of:
2 determining a direction of said response using a digital compass; and
3 creating a polar plot indicating said signal strength and said direction of said
4 response.

- 1 19. The method as recited in claim 1 further comprising the step of:
2 receiving an indication that said monitored unit has been tampered with.
- 1 20. The method as recited in claim 19, wherein said monitored unit indicates it
2 has been tampered with if an intensity of reflections received by a detector of said
3 monitored unit is less than a threshold.

1 21. A computer program product embodied in a machine readable medium for
2 monitoring and locating an object comprising the programming steps of:

3 activating a unit to be monitored by a monitoring unit;
4 receiving a first packet of data from said monitored unit, wherein said first
5 packet of data comprises an identification;

6 transmitting a seed of an algorithm to said monitored unit if said identification
7 associated with said first packet of data is a valid identification; and

8 measuring a signal strength of a second packet of data if said second packet of
9 data was received at an expected frequency from said monitored unit, wherein said
10 step of measuring said signal strength of said second packet of data indicates an
11 approximate distance said monitored unit is located from said monitoring device.

1 22. The computer program product as recited in claim 21 further comprising the
2 programming step of:

3 transmitting an assigned identification to said monitored unit if said
4 identification associated with said first packet of data is a valid identification.

1 23. The computer program product as recited in claim 21 further comprising the
2 programming step of:

3 transmitting a time synchronization to said monitored unit if said
4 identification associated with said first packet of data is a valid identification.

1 24. The computer program product as recited in claim 21 further comprising the
2 programming step of:

3 transmitting an acknowledgment to said monitored unit if said signal strength
4 of said second packet of data is at or above a threshold.

1 25. The computer program product as recited in claim 21 further comprising the
2 programming step of:

3 indicating to a user of said monitoring unit that said monitored unit is located
4 beyond a pre-selected distance from said monitoring unit if said signal strength of
5 said second packet of data is below a threshold.

1 26. The computer program product as recited in claim 25 further comprising the
2 programming steps of:

3 transmitting an acknowledgment to said monitored unit; and
4 providing a user of said monitoring unit an option of entering into a locate
5 mode.

1 27. The computer program product as recited in claim 26 further comprising the
2 programming step of:

3 receiving input to enter said locate mode.

1 28. The computer program product as recited in claim 21 further comprising the
2 programming step of:

3 indicating to a user of said monitoring unit that said monitored unit is located
4 beyond a pre-selected distance from said monitoring unit if said monitoring unit did
5 not receive said second packet of data from said monitored unit at said expected
6 frequency after a pre-determined time period.

1 29. The computer program product as recited in claim 28 further comprising the
2 programming steps of:

3 transmitting an acknowledgment to said monitored unit; and
4 providing a user of said monitoring unit an option of entering into a locate
5 mode.

1 30. The computer program product as recited in claim 29 further comprising the
2 programming step of:
3 receiving input to enter said locate mode.

1 31. The computer program product as recited in claim 27 further comprising the
2 programming steps of:
3 activating a directional antenna; and
4 transmitting a first signal to said monitored unit to enter said locate mode.

1 32. The computer program product as recited in claim 31 further comprising the
2 programming step of:
3 transmitting a second signal to said monitored unit to enter said locate mode if
4 said monitoring unit did not receive a response to said transmitted first signal.

1 33. The computer program product as recited in claim 31 further comprising the
2 programming steps of:
3 receiving a response to said transmitted first signal from said monitored unit at
4 an expected frequency;
5 transmitting an acknowledgment to said monitored unit; and
6 measuring a signal strength of said response.

1 34. The computer program product as recited in claim 33 further comprising the
2 programming steps of:
3 determining a direction of said response using a digital compass; and
4 creating a polar plot indicating said signal strength and said direction of said
5 response.

1 35. The computer program product as recited in claim 30 further comprising the
2 programming steps of:
3 activating a directional antenna; and
4 transmitting a first signal to said monitored unit to enter said locate mode.

1 36. The computer program product as recited in claim 35 further comprising the
2 programming step of:
3 transmitting a second signal to said monitored unit to enter said locate mode if
4 said monitoring unit did not receive a response to said transmitted first signal.

1 37. The computer program product as recited in claim 35 further comprising the
2 programming steps of:
3 receiving a response to said transmitted first signal from said monitored unit at
4 an expected frequency;
5 transmitting an acknowledgment to said monitored unit; and
6 measuring a signal strength of said response.

1 38. The computer program product as recited in claim 37 further comprising the
2 programming steps of:
3 determining a direction of said response using a digital compass; and
4 creating a polar plot indicating said signal strength and said direction of said
5 response.

1 39. The computer program product as recited in claim 21 further comprising the
2 programming step of:
3 receiving an indication that said monitored unit has been tampered with.

1 40. The computer program product as recited in claim 39, wherein said monitored
2 unit indicates it has been tampered with if an intensity of reflections received by a
3 detector of said monitored unit is less than a threshold.

1 41. A system, comprising:
2 a monitoring unit configured to monitor and locate a monitored unit, wherein
3 said monitoring unit comprises:
4 a memory unit operable for storing a computer program operable for
5 monitoring and locating said monitored unit; and
6 a processor coupled to said memory unit, wherein said processor,
7 responsive to said computer program, comprises:
8 circuitry operable for activating a unit to be monitored by a
9 monitoring unit;
10 circuitry operable for receiving a first packet of data from said
11 monitored unit, wherein said first packet of data comprises an identification;
12 circuitry operable for transmitting a seed of an algorithm to
13 said monitored unit if said identification associated with said first packet of data is a
14 valid identification; and
15 circuitry operable for measuring a signal strength of a second
16 packet of data if said second packet of data was received at an expected frequency
17 from said monitored unit, wherein said step of measuring said signal strength of said
18 second packet of data indicates an approximate distance said monitored unit is located
19 from said monitoring device.

1 42. The system as recited in claim 41, wherein said processor further comprises:
2 circuitry operable for transmitting an assigned identification to said monitored
3 unit if said identification associated with said first packet of data is a valid
4 identification.

1 43. The system as recited in claim 41, wherein said processor further comprises:
2 circuitry operable for transmitting a time synchronization to said monitored
3 unit if said identification associated with said first packet of data is a valid
4 identification.

1 44. The system as recited in claim 41, wherein said processor further comprises:
2 circuitry operable for transmitting an acknowledgment to said monitored unit
3 if said signal strength of said second packet of data is at or above a threshold.

1 45. The system as recited in claim 41, wherein said processor further comprises:
2 circuitry operable for indicating to a user of said monitoring unit that said
3 monitored unit is located beyond a pre-selected distance from said monitoring unit if
4 said signal strength of said second packet of data is below a threshold.

1 46. The system as recited in claim 45, wherein said processor further comprises:
2 circuitry operable for transmitting an acknowledgment to said monitored unit;
3 and
4 circuitry operable for providing a user of said monitoring unit an option of
5 entering into a locate mode.

1 47. The system as recited in claim 46, wherein said processor further comprises:
2 circuitry operable for receiving input to enter said locate mode.

1 48. The system as recited in claim 41, wherein said processor further comprises:
2 circuitry operable for indicating to a user of said monitoring unit that said
3 monitored unit is located beyond a pre-selected distance from said monitoring unit if
4 said monitoring unit did not receive said second packet of data from said monitored
5 unit at said expected frequency after a pre-determined time period.

1 49. The system as recited in claim 48, wherein said processor further comprises:
2 circuitry operable for transmitting an acknowledgment to said monitored unit;
3 and
4 circuitry operable for providing a user of said monitoring unit an option of
5 entering into a locate mode.

- 1 50. The system as recited in claim 49, wherein said processor further comprises:
2 circuitry operable for receiving input to enter said locate mode.
- 1 51. The system as recited in claim 47, wherein said processor further comprises:
2 circuitry operable for activating a directional antenna; and
3 circuitry operable for transmitting a first signal to said monitored unit to enter
4 said locate mode.
- 1 52. The system as recited in claim 51, wherein said processor further comprises:
2 circuitry operable for transmitting a second signal to said monitored unit to
3 enter said locate mode if said monitoring unit did not receive a response to said
4 transmitted first signal.
- 1 53. The system as recited in claim 51, wherein said processor further comprises:
2 circuitry operable for receiving a response to said transmitted first signal from
3 said monitored unit at an expected frequency;
4 circuitry operable for transmitting an acknowledgment to said monitored unit;
5 and
6 circuitry operable for measuring a signal strength of said response.
- 1 54. The system as recited in claim 53, wherein said processor further comprises:
2 circuitry operable for determining a direction of said response using a digital
3 compass; and
4 circuitry operable for creating a polar plot indicating said signal strength and
5 said direction of said response.
- 1 55. The system as recited in claim 50, wherein said processor further comprises:
2 circuitry operable for activating a directional antenna; and

3 circuitry operable for transmitting a first signal to said monitored unit to enter
4 said locate mode.

1 56. The system as recited in claim 55, wherein said processor further comprises:
2 circuitry operable for transmitting a second signal to said monitored unit to
3 enter said locate mode if said monitoring unit did not receive a response to said
4 transmitted first signal.

1 57. The system as recited in claim 55, wherein said processor further comprises:
2 circuitry operable for receiving a response to said transmitted first signal from
3 said monitored unit at an expected frequency;
4 circuitry operable for transmitting an acknowledgment to said monitored unit;
5 and
6 circuitry operable for measuring a signal strength of said response.

1 58. The system as recited in claim 57, wherein said processor further comprises:
2 circuitry operable for determining a direction of said response using a digital
3 compass; and
4 circuitry operable for creating a polar plot indicating said signal strength and
5 said direction of said response.

1 59. The system as recited in claim 41, wherein said processor further comprises:
2 circuitry operable for receiving an indication that said monitored unit has been
3 tampered with.

1 60. The system as recited in claim 59, wherein said monitored unit comprises:
2 an emitter configured to emit infrared signals to a skin of an individual; and
3 a detector configured to receive reflections of said emitted infrared signals
4 from said skin.

1 61. The system as recited in claim 60, wherein said monitored unit further
2 comprises:
3 a memory unit operable for storing a computer program operable for
4 determining if said monitored unit has been tampered with; and
5 a processor coupled to said memory unit, wherein said processor, responsive
6 to said computer program, comprises:
7 circuitry operable for determining if an intensity of said reflections of
8 said emitted infrared signals is less than a threshold; and
9 circuitry operable for transmitting said indication that said monitored
10 unit has been tampered with if said intensity of said reflections of said emitted
11 infrared signals is less than said threshold.

1 62. A system, comprising:
2 a monitored unit attached to an object; and
3 a monitoring unit configured to monitor and locate said monitored unit,
4 wherein said monitoring unit comprises:
5 a memory unit operable for storing a computer program operable for
6 monitoring and locating said monitored unit; and
7 a processor coupled to said memory unit, wherein said processor,
8 responsive to said computer program, comprises:
9 circuitry operable for activating said monitored unit;
10 circuitry operable for receiving a first packet of data from said
11 monitored unit, wherein said first packet of data comprises an identification;
12 circuitry operable for transmitting a seed of an algorithm to
13 said monitored unit if said identification associated with said first packet of data is a
14 valid identification; and
15 circuitry operable for measuring a signal strength of a second
16 packet of data if said second packet of data was received at an expected frequency
17 from said monitored unit, wherein said step of measuring said signal strength of said
18 second packet of data indicates an approximate distance said monitored unit is located
19 from said monitoring device.

1 63. A system, comprising:
2 a monitored unit attached to an object, wherein said monitored unit comprises:
3 a memory unit operable for storing a computer program operable for
4 determining if said monitored unit has been tampered with;
5 a processor coupled to said memory unit;
6 an emitter coupled to said processor, wherein said emitter is
7 configured to emit infrared signals to a skin of an individual; and
8 a detector coupled to said processor, wherein said detector is
9 configured to receive reflections of said emitted infrared signals from said skin;
10 wherein said processor, responsive to said computer program, comprises
11 circuitry operable for determining if an intensity of said reflections of
12 said emitted infrared signals is less than a threshold; and
13 circuitry operable for transmitting an indication that said monitored
14 unit has been tampered with if said intensity of said reflections of said emitted
15 infrared signals is less than said threshold.

1 64. The system as recited in claim 63, wherein said processor further comprises:
2 circuitry operable for transmitting signals at an increased rate.

1 65. The system as recited in claim 64 further comprises:
2 a monitoring device configured to monitor and locate said monitored unit,
3 wherein said monitoring device comprises:
4 a memory unit operable for storing a computer program operable for
5 monitoring and locating said monitored unit; and
6 a processor coupled to said memory unit, wherein said processor,
7 responsive to said computer program, comprises:
8 circuitry operable for receiving said indication that said
9 monitored unit has been tampered with;

10 circuitry operable for receiving a transmitted signal; and
11 circuitry operable for measuring a signal strength of said
12 transmitted signal;
13 circuitry operable for determining a direction of said
14 transmitted signal; and
15 circuitry operable for creating a polar plot indicating said
16 signal strength and said direction of said transmitted signal.